

What Is Claimed Is:

1. A method for measuring at least one test surface and a reference test surface, comprising:
  - causing an interference measuring probe to emit a first measuring beam aligned with respect to the reference test surface;
  - emitting at least one second measuring beam that is aligned with respect to at least the at least one test surface.
2. The method as recited in Claim 1, wherein:
  - each one of the first measuring beam and the at least one second measuring beam is produced by splitting a light beam.
3. The method as recited in Claim 1, wherein:
  - the first measuring beam has an optical path of a length that is identical with that of the at least one second measuring beam.
4. The method as recited in Claim 1, wherein:
  - at least one of the first measuring beam and the at least one second measuring beam is orthogonal to at least one of the at least one test surface and the reference test surface.
5. The method as recited in Claim 1, further comprising:
  - in a measuring position of the interference measuring probe, focusing only one of the first measuring beam and the at least one second measuring beam on one of the test surface and the reference test surface.
6. The method as recited in Claim 1, further comprising:
  - in a measuring position of the interference measuring probe, focusing at least two differently polarized measuring beams on different surfaces of the at least one test surface and the reference test surface.
7. The method as recited in Claim 1, further comprising:

in a measuring position of the interference measuring probe, focusing the first measuring beam and the at least one second measuring beam on different surfaces of the at least one test surface and the reference test surface.

8. The method as recited in Claim 1, further comprising:

measuring an alignment of different internal rotational surfaces.

9. A device for measuring at least one test surface and a reference test surface, comprising:

an interference measuring probe that emits a first measuring beam aligned with respect to the reference test surface, wherein:

the interference measuring probe emits at least one second measuring beam aligned with respect to at least the at least one test surface.

10. The device as recited in Claim 9, further comprising:

a reflecting prism by which each of the first measuring beam and the at least one second measuring beam is produced by splitting a light beam.

11. The device as recited in Claim 9, wherein:

the first measuring beam has an optical path of a length that is identical with that of the at least one second measuring beam.

12. The device as recited in Claim 9, wherein:

one of the first measuring beam and the at least one second measuring beam is orthogonal to one of the test surface and to the reference test surface.

13. The device as recited in Claim 9, wherein:

in one measuring position of the interference measuring probe, only one of the first measuring beam and the at least one second measuring beam is focused on one of the test surface and the reference test surface.

14. The device as recited in Claim 9, further comprising:

a reflecting prism, wherein:

in one measuring position of the interference measuring probe,

at least two differently polarized measuring beams that are produced by the reflecting prism polarizing at least two input light beams differently are focused on different surfaces of the at least one test surface and the reference test surface.

15. The device as recited in Claim 9, further comprising:

an electronic shutter, wherein:

in one measuring position of the interference measuring probe, at least two measuring beams that are focused via the electronic shutter in a time-division multiplexer are focused on different surfaces of the at least one test surface and the reference test surface.

16. The device as recited in Claim 9, wherein:

all the components used to form the first measuring beam and the at least one second measuring beam have an at least partially cylindrical, external form with an identical external diameter and are installed in a centering tube having a corresponding internal diameter.

17. The device as recited in Claim 9, wherein:

the device is adapted for measuring an alignment of different internal rotational surfaces.